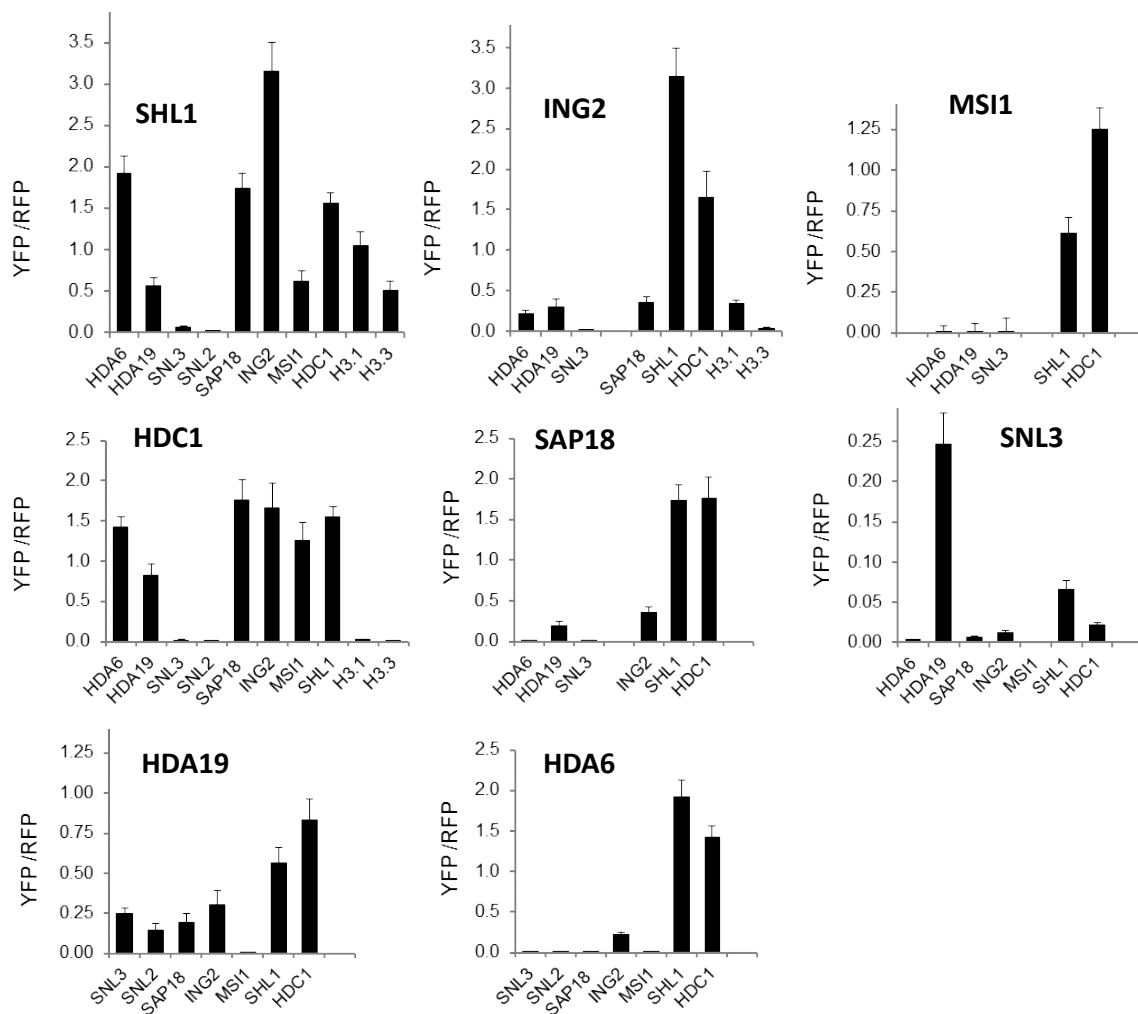
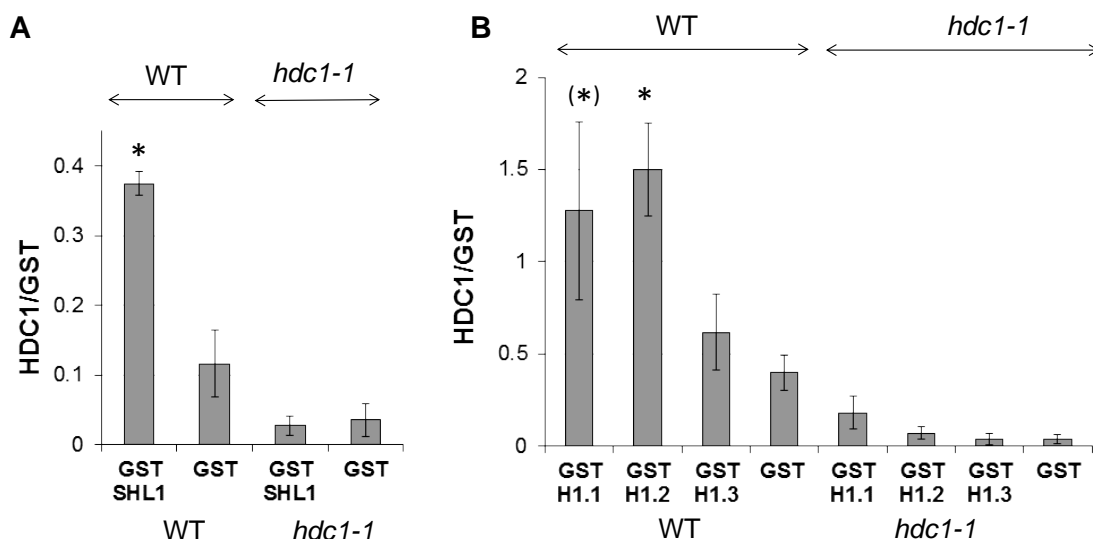


Supplemental Figure 1: Subcellular localisation of GFP-fusion protein expressed in tobacco epidermal cells. Left: *A. thaliana* RXT3L, right: *Saccharomyces cerevisiae* RXT3. Bar = 50 μ M.

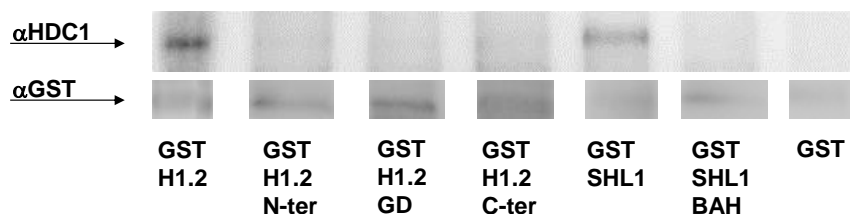


Supplemental Figure 2: Interaction profiles of different HDAC complex proteins. YFP/RFP signal ratio in tobacco leaf cells after transient transformation with protein 1-protein 2 construct in the vector shown in Figure 1A. Bars are means \pm SE ($n \geq 30$ cells from three independently transformed plants).

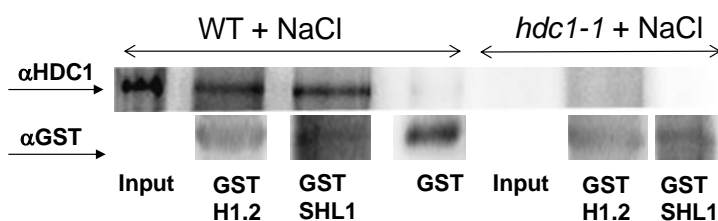


Supplemental Figure 3. Quantification of HDC1 interaction with H1.2 and SHL1 in leaf tissue of *A. thaliana*.

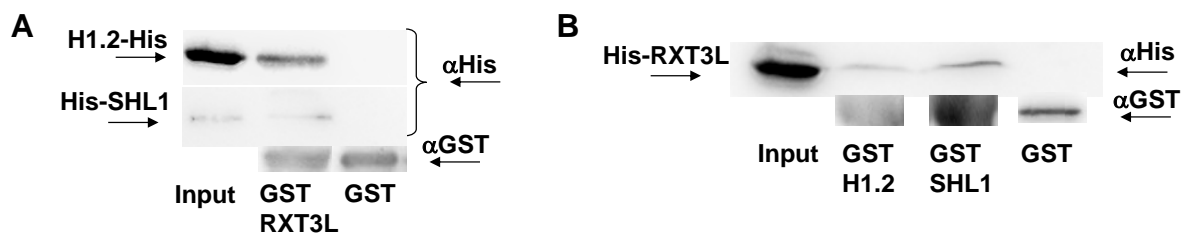
Relative intensities of HDC1 and GST bands in Western blots of pulldown assays of HDC1 in nuclei-enriched protein samples from wild-type (WT) or HDC1 knockout plants (*hdc1-1*) using GST-SHL1 (A) or GST-H1 variants (B) as baits. Bands intensities were quantified using Image G. Bars are means of at least three independent pulldown experiments. Significant differences of band ratios obtained with a given bait compared to those obtained with GST alone as a bait are indicated with asterisks. *: $p < 0.05$, (*): $p = 0.06$.



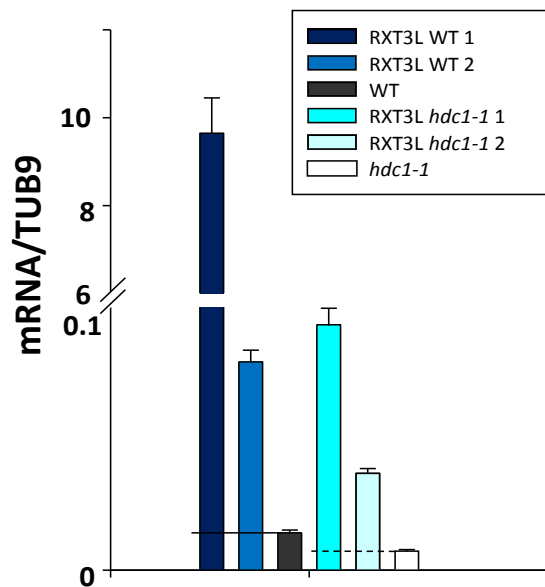
Supplemental Figure 4. Truncated versions of H1.2 and SHL1 are not sufficient for binding HDC1. Western blots showing pulldown of HDC1 in nuclei-enriched protein samples from leaves of wildtype *A. thaliana* plants. The following GST-fusions were used as baits (from left to right): full-length H1.2 ([positive control), N-terminal (N-ter) part of H1.2, globular domain (GD) of H1.2, C-terminal (C-ter) part of H1.2, full-length SHL1 (positive control), bromo-adjacent homology (BAH) domain of SHL1, and GST alone (negative control). The upper panel shows the membrane probed with HDC1 antibody (α HDC1). The bottom panel shows the membranes re-probed with GST antibody (α GST).



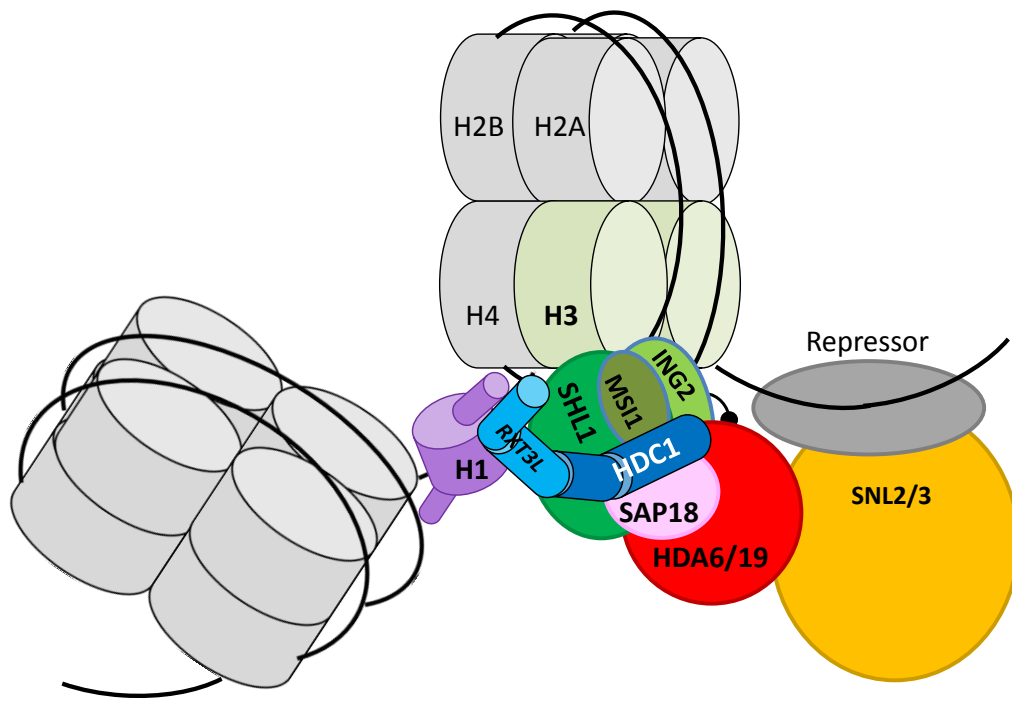
Supplemental Figure 5. HDC1 interaction with H1.2 and SHL1 in salt-treated *A. thaliana* plants. Western blots showing pulldown of HDC1 in nuclei-enriched protein samples from *A. thaliana* wildtype (WT) or HDC1 knockout plants (*hdc1-1*) after salt treatment (150 mM NaCl for 24h) using GST-H1.2, GST-SHL1 and GST alone as bait. The upper panel shows the membrane probed with HDC1 antibody (α HDC1). The bottom panel shows the membranes re-probed with GST antibody (α GST). As labelled, lane contains HDC1 only (Input, positive control), pull-down with GST-H1.2 or GST-SHL1, and pull-down with GST alone (negative control).



Supplemental Figure 6. Reciprocal pulldown of Rxt3L/SHL1 and Rxt3L/H1.2. **A:** Western blots of recombinant H1.2-His and His-SHL1 after pulldown with recombinant GST-RXT3L (second lanes). The first lanes contain positive controls (recombinant H1.2-His and His-SHL1), and the last lanes contain a negative control (pull down with GST alone). The upper panel shows the membrane probed with histidine antibody (αHis). The bottom panels show the membrane re-probed with GST antibody (αGST). **B:** Western blots of recombinant His-RXT3L after pulldown with recombinant GST-H1.2 (second lane) and GST-SHL1 (third lane). The first lane contains a positive control (recombinant His-RXT3L) and the last lane contains a negative control (pull down with GST alone). The upper panel shows the membrane probed with histidine antibody (αHis). The bottom panels show the membrane re-probed with GST antibody (αGST).



Supplemental Figure 7: Transcript levels of the RXT3-like part of HDC1 in two overexpressing lines (wildtype background, blue) and two complementation lines (*hdc1-1* background, turquoise). Note that the fragment is not only amplified from the Rxt3L transgene but also from full-length HDC1 in wildtype background (black line) and from an out-of-frame partial mRNA in the *hdc1-1* plants (dotted line).



Supplemental Figure 8: Visual summary of protein interactions assayed in this study. The proteins tested here are shown in colour. The light blue RXT3L is part of the HDC1 protein. Note that not all proteins necessarily co-exist in the same complex.